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TRANSLATIONS.

TRANSLATED EXPRESSLY FOR THIS JOURNAL, BY W. HAY, M.D., ASSOCIATE EDITOR.

Memoir upon the Peripheral Terminations of Motor Nerves in the Animal Series.

BY S. TRINCHESE—FROM LA GAZETTE MÉDICALE.

Conclusions.—1st. In all the animals in whom it has been possible to study the terminations of the motor nerves, there has been discovered a special organ termed motor plate (plaque motrice) at the extremity of the *axis cylinder*.

2d. The union of the nervous element with the muscular fasciculus is accomplished in the following manner:

When the muscular fasciculus is provided with sarcolemma, and the nervous element with its sheath, this latter is fused into the envelope of the primitive muscular fasciculus at the point where the nervous element meets the muscular fasciculus. At this point, or a little in advance of it, the medullary substance terminates, whilst the *axis cylinder* pursues its way, and penetrates into the motor plate.

3d. The motor plate is placed under the sarcolemma. It ordinarily presents the form of a cone whose summit is directed toward the nerve tube, whilst the base rests upon the primitive muscular fibres.

4th. This plate is formed of two layers superposed and very distinct, especially in those animals provided with large plates. The substance of the superior plate is granular: that of the lower layer is perfectly homogeneous, and is probably nothing more than an expansion of the *axis cylinder.*

5th. Within the thickness of the third granular layer of the plate, is found in the torpedo, a system of canals in which the *axis cylinder* ramifies, forming a network with large meshes. These canals are limited to a sheath which constitutes their walls.

6th. When the muscular fasciculi present central canals the granular substance of the plate is continuous with the granular substance contained in these canals.

7th. In animals provided only with slender muscular fibres, the *axis cylinder* traverses the granular substance of the plate by subdividing into two filaments which terminate in points with two extremities of the contractile element.

8th. Everything induces the belief that each primitive muscular fasciculus possesses but one motor plate. In this latter one or more nervous elements originate from the subdivision of the same nervous tube.

9th. The diameter of the motor plate augments in proportion to the size of the primitive muscular fasciculus.

Pathogenesis.

CONTAGION OF PHTHISIS PULMONALIS.

La *Gazette Médicale* of Paris publishes the following paper read by M. Chauveau before the Academy of Medicine, entitled: *Application of the knowledge of the conditions of infection to the study of the contagion of phthisis pulmonalis.*

Demonstration of the virulence of tuberculosis by the effects of the ingestion of tuberculous matter into the digestive canal. Corollaries relating to public and private hygiene.

Impressed with the idea that if tuberculosis is a virulent affection, it should be capable of communication, almost infallibly, by the digestive canal, by reason of the exceptional facilities which would exist for the administration in enormous quantities, of the vehicles of the virus.

M. Chauveau has undertaken some experiments designed to determine this important point, and primarily he desired that the experiments should be upon a species of animals in which tuberculosis was a very common natural disease, characterized by all the gravity which it presents in the human species. His choice was therefore fixed upon the bovine species. In order not to experiment upon subjects already infected, he selected young animals; three heifers of from six to twelve months old, born and reared in freedom from all the conditions favorable to the natural development of phthisis, and a fourth heifer likewise healthy and designed to serve as a standard of comparison, not being intended to be submitted to experiment.

By the aid of a bottle and by little mouthfuls, about thirty grammes of tuberculous matter, diluted with water, and extracted from the lungs of an old phthisical cow, at the termination of variable periods, but not exceeding three weeks, these animals fell into a dying condition, after having presented all the evident signs of tuberculous affection. They were sacrificed fifty-two days after the beginning of the experiments, and at the autopsies beautifully developed lesions of generalized tuberculosis were found, with extremely marked predominance in the mesentery and the intestine.

The lungs were studded with tuberculous masses in a crude state, whose volume varied between that of a pea and that of a large filbert. As to the heifer used as a standard of comparison, although living in the same hygienic conditions she remained unaffected. The principal conclusion

which M. Chauveau draws from these facts, is that "animals of the bovine species contract tuburculosis by digestive infection, as they take charbon and vaccine, as the sheep takes foot-rot, as the solipeds take glanders, as man takes variola, etc., etc."

The author concludes by indicating the important consequences which are deducible from these experiments:

1st. They place beyond all doubt the virulence and the contagious properties of tuberculosis, and demonstrate that the labors of M. Villemin upon the subject have not been recompensed as they deserve.

2d. The digestive tube in man constitutes, as in the bovine species, an avenue for contagion most appropriately arranged for the propagation of tuberculosis, and which may be much more frequently in operation than the pulmonary tract.

3d. If bovine tuberculosis belongs to the same species as human tuberculosis, there exists in alimentation by butcher's meat taken from phthisical animals a permanent danger to public health, a danger to which the army and the poor classes are exposed, and against which it would be important to establish measures of sanitary police.

M. Colin:—I desire to speak one word in reply to the communication of M. Chauveau relative to the transmission of charbon and of tuberculosis by the digestive canal. Three years ago I made experiments upon dogs, giving them to eat the flesh of sheep affected with charbon, and not one of them was sick. Rabbits submitted to the same alimentation have not had diarrhœa. These experiments confirm those of Renault; so that I do not believe that charbon can be transmitted by the digestive tract. It can happen only when there may be in the mouth, or in some other portion of the digestive mucus membrane, a wound, a solution of continuity which absorbs the virus; in my opinion it is a true inoculation which is pro[illegible]ed.

The mode of transmission by the alimentary canal would be still more inexplicable for tuberculosis. I have also

made experiments upon dogs and upon rabbits. I fed to a dog an entire lung which contained not less than two or three kilogrammes of tuberculous matter; he suffered nothing therefrom, so that I see in M. Chauveau's fact only a simple coincidence. Animals sold for experiment have frequently a form of phthisis, intestinal phthisis. The digesmucous surface, and the patches of Peyer are stuffed with tubercles; a smaller number are found in the lungs. On the other hand the animal observed by M. Chauveau became phthisical only twenty days subsequent to the ingestion of the tuberculous matter. Now this is not characteristic of the progress of tuberculosis; this is not what happens, for example, when tubercle is inoculated into the cellular tissue. Indeed, several weeks are necessary to see the phthisis develop itself. Therefore, I do not believe that tuberculosis is transmissible by the digestive canal.

M. CHAUVEAU:—I am astonished at the objections of M. Colin; they show that he has not heard the reading of my paper, and that he is not acquainted with the experiments of Renault. My paper, in fact, comprised three facts, and not one alone; the animals submitted to experiment were young heifers and not old cows; they were healthy and not sick. The coincidence is doubtless possible, but it would not be probable. I shall leave the Academy to decide this point. Relative to the transmission of charbon by the digestive tract Renault at first made negative experiments, it is true, upon dogs: but it is well known that this animal is refractory to diseases of this character (charbon). In 1851, in a work communicated to the Academy of Science, Renault stated that he had undertaken similar experiments upon herbivora, the horse, the sheep and the ox, and he affirms that he had transmitted charbon to these animals, likewise. Other experiments had conducted him to the same results with the virus of glanders.

CORRESPONDENCE.

Clinical Surgery in the Paris Hospitals.

PARIS, Jan., 1868.

In the service of Mr. Maisonneuve of the Hotel Dieu, saw a man, aged about 50, having an inguinal hernia descending into the scrotum, making it the size of a boy's head. The clever surgeon, immediately on seeing the patient, tapped the tumor slightly with his finger, and, in an instant, made the diagnosis by the sound thus produced. This sound resembled that produced by gently tapping a moistened bladder filled with air. The surgeon's ear once accustomed to it, he has no need of manipulation to make his diagnosis. Calling for a caoutchouc band, three inches wide and about three feet long, he first encircled the neck of the hernia so closely as to prevent the herniary aperture from dilating or bursting; then, with considerable force, enveloped the whole hernia, thus producing a strong pressure. Immediately one could see the tumor forcibly diminish, and within five minutes the greater part of it was reduced. A little gentle taxis completed the operation. This surgeon declares he never saw even a strangulated hernia that he could not reduce with this india-rubber band. which he always employs if he considers the various hernial parts are not too much diseased to contra-indicate reduction.

Although it may seem useless to refer to the long disputed question of a specific cancerous cell, yet, many a practitioner may be pleased to know the opinion expressed this week by so distinguished a man as M. Maisonneuve; a surgeon who probably sees and treats more tumors, called cancers, than all the rest of the surgeons of Paris combined.

Safely can I say that one can never pass through his

wards without finding at least a dozen unfortunate beings thus affected. For M. Robin, Professor of Histology, at the Medical Faculty of Paris, the word cancer has no signification, and ought to be obsolete; for him, this so-styled specific cell does not exist, and what has been so considered are only the various phases of morbid development of several different kinds of cells. M. Maisonneuve, at his last lecture, declared that he could not agree with M. Robin when saying there is nothing particular in a cancerous tumor. This surgeon of the Hotel Dieu said, that within fifteen years he had operated on many of these tumors, examined them with the microscope, taken uotes of them, which he had put aside. That one day, while reperusing these notes, he had seen that the tumors having a particular cell relapsed within a certain time; and for him they were cancers. That whenever he saw this form under the microscope, he was sure the patient had not more than five years to live, and that the poor creature would have all the symptoms of a cancerous cachexia.

If he saw this form he was quite sure of a final recovery.

If this form, which was formerly considered cancerous, he knew the tumor would not produce the cancerous cachexia.

If he saw the tumor to be an epithelioma, he knew it might relapse at its primitive situation, or in the neighboring ganglions; but, that there would be no cancerous cachexiæ, no cancerous generalization. That, as a general rule, the true cancer usually relapses within three years, and always within five years. That one should operate whenever he saw, by so doing, he might relieve the patient's sufferings for a certain period. In the most of his operations he does not employ the bistoury, but a wedged-like, solid *arrow* as he calls it composed of chloride of zinc and wheat flour, equal parts, water *q. s.*, which he will introduce into any part of the body to a depth proportionate to the tissue affected.

These arrows (fliches) are about three inches long, one-sixth of an inch thick. At the base two-thirds of an inch wide, the apex pointed.

I have seen him remove, by this method, parts of the uterus; often a whole breast; half of the maxillary inferior, parts of the maxillary superior; the bones of the nose, etc. He thrusts them into a part by first making a deep incision merely the width of an ordinary bistoury. The part resting above the surface is cast off, and then the whole is covered with dry lint. About ten days after their insertion an eschar comes away taking all tissues affected for half an inch beyond the surface of the caustic.

By this method he proclaims to avoid, as a general rule, hæmorrhage, erysipelas, and purulent infection. In by far the greater part of his operations such is the case. Often have I seen him successfully operate on poor creatures whom many a skilful surgeon had refused an operation, and would not dare to touch, fearing from the nature of the parts affected, and from the extent of the disease, that the patient would expire in their hands before they could terminate their attempt.

Suffice it to say that although M. Maisonneuve and the Faculty of Paris are not friends, yet I have seen some of the best Professors of the Faculty occasionally employ this method.

For dressing various wounds and operations, Maisonneuve employs the Tincture of Arnica, which he considers to prevent inflammatory action, the Arnica root long having been esteemed as a preventative to purulent infection; glycerine, which Trousseau had long considered beneficial in superficial skin affections, and which Bazin has long praised in the treatment of eczema, zona, ichthyosis and in other skin diseases; French aromatic wine; dry lint, or lint saturated with the different substances here mentioned; carbolic acid, everywhere admitted to prevent fermentation, and consequently, putrefaction, which is a consequence of

it. Phenic acid is more often used for dressing than any other substance in his service.

Pieces of linen perforated by many small holes, and covered with a thin layer of cerate, which is seen in so many of the surgical services of Paris, Maisonneuve uses no more. In regard to this latter point I think this clever surgeon has shown sensibility to abandon it; for, let me ask, what good can simple cerate, composed of three parts of sweet almond oil and one part of pure white wax, do, aside from keeping air from a wound? It is well known that simple cerate becomes rancid very promptly, and then has an irritating action. If one chooses to employ medicated cerates, such as the cerate of belladonna used in England, antiseptic, antiherpetic, antisyphilitic cerates, in which the simple or Galian cerate is a mere vehicle, then we see there is a direct object in view. In this letter, Mr. Editor, I intended to have spoken of a new kind of splints for fractures, and of a useful apparel for amputations, employed by M. Maisonneuve, but I find there is no room.

Yours Truly,

A. W. Bosworth.

Our California Letter.

San Francisco, Cal., Jan. 13.

Dear Editor:—I promised you some leaves from my note book on the Pacific coast, and after a sojourn of only a few weeks find myself charged with material for at least a dozen pseudo-professional letters.

Among the California pioneers one soon comes to feel that to reach San Francisco by one of Pullman's sleeping cars will be an inglorious mode of entering the country. As the German said to his newly-arrived friend—"Coom'd you de isthmus mit?" "Nein." "Oh! den you coom de blains across?" "Nein." "Vy! den you cooms de Horn

around?" "*Nein.*" "Vot a dricks! *Den you no cooms at all!*" Transit by cars, sleeping one half the time, eating and reading newspapers a good part of the other half, always on the wrong side when anything is to be seen; however desirable in a commercial point of view, this will be loss of many of the chief advantages of travel. Give us rather the prairie schooner, or the long sea voyage, from which the Golden Gate opens suddenly into a land of promise and delight.

In that part of the earth created and furnished expressly with reference to our noble profession, *Central America*, I lingered only long enough to resolve to visit it again, with full leisure to observe the diseases born of the over luxuriance of nature; and the vast supplies of remedies, as yet only half developed, with which it is stored. No doubt a more faithful study of indigenous practice would give many valuable hints for the successful treatment of those destructive miasmatic fevers which have so long baffled the enterprise of connecting the oceans, and but for which thriving cities would take the place which squalid Aspinwall and sleepy Panama now occupy on the map of the world.

The popular idea that either of these localities are eminently breeding-places of the Panama fever is, I think, an erroneous one. The fact is, the whole country, from shore to shore, least of all where exposed to the ocean breeze, is reeking with miasm, and a rapid journey of less than four hours, in clean, well-ventilated cars, in the day time, and at the most favorable season of the year, will often be followed by an attack. Several of our ship's company who did not indulge in tropical fruits, or in sight-seeing at either terminus, suffered, some of them after their arrival at San Francisco. In the greater number of cases there has been imprudence in diet, and exposure, but the confinement of the ship, and change from ordinary habits of living are in themselves sufficient predisposing causes.

The natives of the Isthmus, especially the American of unmixed blood, have little to fear from anything but exotic diseases. When the fever seizes them, they take a heroic dose of the Jatropa or Physic Nut, and follow this with liberal potations of "Copatchi," an infusion of bark in Jamaica rum, which produces exactly the effect of quinine. This excellent medicine is offered for sale upon the cars, but I am sorry to say that the majority seem to prefer it without the bark. An old medical friend who has practiced, and been practiced upon, for some years in Guatemala, informs me that he repeatedly conquered attacks of fever by violent exercise, literally running for his life, and following up the profuse perspiration thus induced with the aforesaid bitter infusion. He became thoroughly acclimated not only to fever, but to the scorpion, tarantula and "Tommy Goff," not to mention certain winged abominations which drive even naturalists out of the country.

Perhaps it is well that the sinuous scrip of tropic land in our hemisphere should remain undisturbed, to show what nature can do in the vegetable line.

Man seems a pigmy in the presence of these mighty forms. The stately colonades of palm, the lofty ceibas and mahogany trees with their hanging gardens of parasites, and the infinitely varied luxuriance of undergrowth, defy the best attempts of pen or pencil. They must be seen to be realized, and with sight comes the conviction that the outward senses are not strong enough, nor the spiritual senses fine enough to apprehend their beauty. The marvel of the tropics is the "silk cotton tree," which often grows to the height of ninety feet. Its giant stems are used by the natives for canoes, and as it branches near the top, and throws out long and massive limbs, it is, in the floweriug season an enormous flat bouquet, an ærial field of fine carnation relieved by the deepest green.

The banana, which in a given extent of ground affords forty-four times more nutritive material than the potato, and one hundred and thirty-three times more than wheat,

seems the most appropriate symbol of lands so rich in food, medicine, precious woods and gums. Were I a believer in "similia similibus" I would not trust to the efficacy of counter effects as a protection against the dangers of these *drug* forests, any quarter-section of which will furnish aloes, copaiba, cassia, camphor, dragon's blood, ipecac, jesuit's bark, and musk enough to freight a ship.

Precious gifts have they also of spices (pimento gordo and cassia), of frankincense and myrrh; one cannot but wonder that some enterprising Yankee has not established a manufactory of pure extracts in Central America.

We arrived in San Francisco too late to enjoy the earthquake, or to verify without some painstaking the reports we had heard of its ravages—the Franciscans like the Chicagonese think more of the good name of their city than of their personal convenience or safety.

A peculiar physical sensation, not unlike that of fear is admitted to have prevailed during the month of October. It affected the appetite and circulation, and even the locomotive organs; furnished no end of "items", and gave way in the public mind to the "small-pox", which could not and would not be treated as a freak of electricity. Many minds that gravely doubted whether the influence which sent the chimneys over into the streets, and church-steeples crashing down upon the pews, was the result of any action upon or below the earth's crust, were impressed by a fear that the advent of a new disease imported direct from China would prove dangerous if not watched over by the proper authorities. Yellow flags signified, in a very timid and deprecatory manner, the presence of infection, while the plague spread until the infection of nearly every precinct made the most stringent measures necessary. There is no disguising the facts that the mortality from small-pox during the three last months in San Francisco has been appalling—and that a larger number than is usual of fatal cases have been vaccinated, and not unfrequently have had the disease before. It has not raged particularly

among the Chinese—they have not suffered as much as the poorer classes of other nationalities. It has been claimed by the papers that the Chinese doctors have been far more successful than others in their treatment, which I can believe, knowing one of their fundamental principles is that "disease proceeds from imperfect irrigation of the body." Why any body should be imperfectly irrigated in this city is not so clear, the most abundant facilities being offered. It is rather difficult to find out exactly what the Chinese mode of treatment is, but as the epidemic is abating, and Doctor Liang Wantai Scincang, (which being interpreted signifies "terrace of letters,") speaks the English tongue. I hope to understand the rationale of it. If what Remusat says of this singular people is true—"instead of studying the organization of bodies they undertake to determine by reasoning how they ought to be"—one would expect a kind of metaphysical treatment consisting in "wholesome letting alone," and in this possibly lies the secret of success.

Like other highly civilized nations the Chinese have their opposing schools of medicine, and these are well represented among the Anglo-Chinese. Drs. Chan Lin Phory, Chong Po Chi, and Hab Ling, possess the credentials of the Hanlen Quen or Imperial Academy, have a large practice, and may yet appear as delegates to the National Medical Association.

The smell of carbolic acid reminds us often of old Philip Frenau's verse—"Safe in the atmosphere of scents."* Much of the article offered for sale has nothing genuine except the smell. The accomplished President of the Catholic college at Santa Clara, as erudite in chemistry as in theology, offered to us the genuine "Phenic," pure as the best French processes could make it. With him and his army of bright, intelligent boys we have spent our pleasantest hours in California. Nowhere else have we seen science so entirely pervading the system of education. Of the honorable fraternity of teachers and doctors in the Golden State we shall speak in another letter.

E. S. C.

* "On prancing steed, with sponge at nose,
From town behold Sangrado fly.
Camphor and tar, where'er he goes,
The infected shafts of death defy—
Safe in an atmosphere of scents,
He leaves us to our own defence."

PHILIP FRENAU, 1793.

ORIGINAL COMMUNICATIONS.

Puerperal Metro Peritonitis.

BY J. W. DORA, M. D., MATTOON, ILL.

I was summoned Jan. 9th, 1869, to see Mrs. S., aged 30 years, who was three months advanced in pregnancy—the fourth time—she having given birth to two living children and had suffered one abortion ten months previously.

I learned from the patient that she had received a fall some nine days before, from a height of several feet, falling upon the abdomen, which had produced symptoms of approaching abortion. She had suffered pain in the back and loins, with slight chilly sensations, and febrile symptoms, such as headache, loss of appetite, constipation, etc., from the date of the fall.

Upon examination I found a very offensive muco-sanguineous discharge from the uterus, and learned that she had the day previous suffered from severe and protracted rigors, followed by fever. Also several hard chills, with imperfect reaction during that same day previous to my call, with some slight labor pains during the afternoon.

And while I was examining the patient there was a return of the rigors which were protracted more than an hour, presenting all of the alarming symptoms of congestive chills. I found the abdomen very much distended with flatus, very tender and painful; could not endure the slightest pressure, not even the bed clothing to rest heavily upon her; urgent thirst, pulse 120, corded and intermittent during the rigor, but became full, frequent and throbbing. After reaction was partially established, there was hiccough, frequent eructations, retchings and vomiting. Morphine and hot brandy were freely administered during the rigors, and at 8 o'clock P. M. reaction was well established, when fever supplanted the rigors with great violence, the labor

pains were augmented, and at 12 M., the embryo was expelled, leaving the placenta within the contracted os uteri, which I succeeded in removing, partially, with the placental hook. The placenta being already decomposed rendered it impossible to remove it entire. The hœmorrhage was slight and principally retained, as the uterus and its appendages, together with the peritoneum were already inflamed, there was, consequently no expulsive force left in the organ to enable it to throw off its putrid contents, but the patient being considerably under the influence of anodynes and stimulants, she rested pretty comfortably for several hours, until the next morning, I adjusted a wide bandage tightly which contributed to her comfort.

10th. Called at 9 o'clock A. M., and found the patient feverish, etc., but I was hopeful that the case would terminate favorably by resolution within a day or two.

I prescribed :

℞. Quinine : gr. xx ;
Sulphite Soda : ℥ ss :
Morphiæ : ℥ j ;

F. & Chart No. 8, Sig., one every two hours, and ordered hop fomentations to the bowels. Called at 3 P. M. and found the symptoms altogether aggravated. I found before me a malignant and well-developed case of Metro-Peritonitis, complicated, as I afterward discovered with Pelvic Cellulitis.

SYMPTOMS AS FOLLOWS :

Tongue coated dark brown, and dry; thirst insatiable; pulse 140 per minute, full and bounding; skin intensely hot; abdomen tympanitic, tender and painful to the touch, with excruciating throbbing pain low down in the sacral region, from the cellular inflammation, producing that peculiar intolerable tenesmic pain experienced in dysentery. There were profuse, offensive mattery discharges from the bowels at this time, which changed in a few days to dysenterio-muco-purulent character of discharges which were frequent and still very painful. There was head ache, flushed

and cyanotic appearance of the countenance, with an anxious expression. A very offensive, cadaverous odor attended all the secretions and evacuations; there was also partial suppression of urine, with complete retention– requiring the use of the catheter to remove what little there was secreted.

TREATMENT.

But before I proceed to detail the therapeutic treatment of this case, I wish to ask the very pertinent question, and answer it, as I think, philosophically, viz: What is this puerperal, or metro-peritonitis, from puerperal causes? Is it an original local phlegmasia, and the constitutional disturbances simply effects, or is its starting point in the blood, a septicemia and the local lesions merely results? To be brief, as I shall not have space to discuss this question "in extenso," I am of the opinion that the disease under consideration is one of blood poisoning. I believe with Meigs, Ferguson, Bedford and others, that puerperal fever is a veritable toxæmia or septicemia, a ferment or morbific matter taken into the circulation by absorption of putrescent matter, generated within the organism of the patient, or conveyed thence through the principle of contagion from a third party by translation or inoculation. It may, therefore be sporadic or epidemic, produced by the absorption into the circulation of decomposing animal matter, contained and retained within the uterus for a period of nine days, perhaps, after decomposition began.

There are, no doubt, in most all cases certain predisposing causes that contribute more or less to develop and excite these morbid influences within the animal economy, such as malarial, miasmatic and idio-miasmatic or any other depressing influence.

We find three indications to be fulfilled in the rational treatment of puerperal fever, viz:

1. The amelioration of the urgent symptoms, or the mitigation of pain and nervous irritation consequent upon the tympanitic distension of the alimentary canal and the local

engorgement of the metro-mesenteric vessels pressing upon an inflamed serous membrane.

The second and third indications are to neutralize the materies morbi from the circulating mass, then trust to nature to repair the local lesions which it is generally able to do under favorable circumstances, assisted by restorative treatment and nutritious diet.

In fulfilling the first indication in this case, the bowels having already been evacuated by a dose of compound cathartic pills before I was called, which was followed, as I have before said, by diarrhœa, was to adjust a bandage covering the entire abdomen, extending from the crest of the illium to the epigastrium, maintained in position by an abdominal supporter (Marsh's). And, allow me here to urge the great importance of this simple appliance. It acts like a charm in alleviating that feeling of bursting distention and pain, resulting from the passage of gas from one portion of the canal to another, besides it affords mechanical compression and support which every one knows greatly favors absorption when applied to any portion of the economy where there is an engorgement of its blood vessels. It also presents effusion into the peritoneal cavity; and it does not hinder the application of hot fomentations to the abdomen, at all, which I also kept constantly applied until the active inflammation subsided, after which I applied blister of the cantharidal vesicant over the umbilical and both illiac regions, which, I think, does much to avert local lesions of the ovaries and psoas muscles. I next proceed to the therapeutic treatment, proper in the case, believing, as I have heretofore said, that the case was septicemia. I therefore combined antiseptic with antiphlogestic and eliminative remedies in the beginning. I gave, viz:

℞. Acetate of Potassa: ℥ ij;
P. Aconite Folia: ℥ j;
P. Gelsimin: ℥ ij;
Spts. Nitri Dul.: ℥ jss;

Teaspoonful every two hours, in cold lemon acid, alternated with the following emulsion:

℞.	Sulphite Soda:	ʒ ij;
	Quinia Sulph:	ʒ ss;
	Tannin:	ʒ xv;
	Morph. Sulph:	gr. ij;
	Emulsion of Acaciæ:	℥ ij;

M. Sig. Teaspoonful every two hours. And ordered the following antiseptic and disinfectant injection both for vagina and rectum.

℞.	Sol Carbolic Acid:	ʒ iv;
	Oil Glycerine:	℥jss;

M. Add a teaspoonful to a pint of warm water and inject three or four times daily to both the vagina and rectum, to be repeated daily as long as the secretions were offensive.

11th. Nine o'clock A. M. Symptoms unchanged; pulse 150 and weaker; countenance anxious and icterous. Continued the treatment.

12th. Indications much the same. I withdrew the quinine from the emulsion and substituted alum terebinthina sufficient to give 20 drops at a dose every two to four hours.

13th. Prognosis unfavorable. Applied the blisters spoken of to the abdomen, and substituted McMunn's elixir of opium for the morphia in 15 drops doses, in the antiseptic emulsion. Continued the treatment otherwise. The diarrhea at this stage gave place to dysenteric discharges, on account of the extension of inflammation to the colon and rectum, also cellulitis was manifest. Upon examination of the rectum and vagina there could be felt quite a tumor, caused by effusion of sero-purulent matter into the cul de sac situated between the rectum and uterus, which tumor

found an outlet some 24 hours afterwards through the walls of the rectum.

14th. Tenesmic pains in the cæcal region are great, not quite as much tympanitis of the bowels, and symptoms more favorable. Treatment continued.

15th. Patient rested well during the night, but no appetite; recommended brandy with warm milk diet, with rare cooked eggs.

16th. Tongue moist and pulse down to 100 per minute, and she can turn herself on to the left side and straighten out the limbs for a few minutes, still thirsty, but has some relish for the milk and eggs.

17th. Pulse 80 and soft, with good volume; slept several hours during the day and night; bowels still tender, and suffers tenesmus, with, at times, severe colicky pains, for which I gave chloroform; emulsion in teaspoonful doses which had a very happy effect, and prescribed:

℞. Bismuth Subnit: ʒ ij;
Sulphite Soda: ʒ ij;
McMunn's Elixir: ʒ ij;
Emulsion of Acacia ʒ ij;

M. Teaspoonful every three or four hours.

18th. Bowels checked up. Continued the prescription, and in addition gave *hydrarg cum cret.* gr. iij, with half teaspoonful of calcined magnesia, night and morning.

19th and 29th. Patient much improved; the bowels act off more healthy, and appetite improving, but still slight irritative fever during the afternoon.

21st and 22d. There is marked improvement in all the symptoms except the rectal tenesmus and urethral irritation. For the latter symptom I prescribed infusion of uva ursi, with teaspoonful doses several times daily of *spts nitre dulcis* and continued the anodyne and antiseptic emulsion.

25th. Convalescence is well established; appetite good; bowels regular; pains abated; urethral irritation much less; diet and stimulants are relished very much.

30th. Patient rapidly improving. Prescribed the following restorative :

℞. Tinc. Cinchi. Comp : ℥ ij ;
Tinc. Gentian : ℥ ij ;
Pyro Phosphate of Iron : ℥ ij ;
Sherry Wine : ℥ viij ;
M. Tablespoonful every four hours and case discharged.

REMARKS.

There was a peculiarity in the fact of there being no return at any time of the lochial discharge, which became suppressed within a few hours after the expulsion of the embryo, no coagula ever passed, and very little uterine discharge of any kind after the fifth day. What became of all that morbid matter is a question; of course, it must have passed off by absorption, or else it found an outlet by way of the pelvic abscess of which I spoke in the early history of the case.

Super-Oxygenation as a Therapeutic Measure, with Notes of Cases Treated.

BY S. S. WALLIHAN, M. D., CHICAGO.

The relations of oxygen to animal life were early the subject of earnest inquiry.

The experiments of Priestley and Lavoisier demonstrated that birds, rabbits and other animals immersed in an atmosphere of pure oxygen gas were rendered more lively—as it were, stimulated, and that dogs trained for the chase, when allowed to breathe the gas for a short time, could endure greater hardships, and for a longer period, than their fellows who had not been subjected to its influence; and that animals suffocated from inhaling poisonous vapors were speedily resuscitated by a supply of pure oxygen.

It was also demonstrated that the muscles of the animals repeatedly subjected to the influence of the gas, became

very firm—toughened as it were, materially interfering with their quality of tenderness for dietetic purposes.

These striking results, naturally, attracted the attention of physiologists, and pointed to important therapeutic developments in the future. Considerable experimentation followed, with a view to make non-atmospheric oxygen available to the intelligent pathologist, in the removal of morbid conditions.

Dr. Beddoes—not "Eddoes" as quoted in the *London Lancet*—has the honor of having been the first medical man who gave any considerable attention to the subject. He was assisted by Sir Humphrey Davy; but great difficulty was experienced in adapting apparatus for the ready evolution of the gas in sufficiently pure condition for medical uses; and after long and painful effort, Beddoes declared himself beaten, not by any lack or loss of faith in oxygen, but "by the difficulties in making it available." His partial success, however, was sufficiently suggestive to inspire further efforts, and he was followed by Drs. Hill, Thornton, Cavallo and others.

Since the former ones were, by the general profession, considered a failure, the experiments of these late investigations were conducted in comparative seclusion, or were made the subject of uncharitable professional criticism and opposition.

Hence, Dr. Hill's work, published in 1820, although full of instructive and striking facts, attracted little notice and was soon forgotten. Few members of the profession, at the present day, are aware that experiments so conclusive were ever conducted, or that a work of such unusual candor and singular ability was ever issued.

Somewhat later, Thornton, Cavallo and McCormack instituted still more extensive trials of the agent, and each unhesitatingly commended it. Within fifteen years past, Richardson, Demarquay, Birch, Goolden, Francis, Alexander, Erichsen and others, have, more or less used, and without exception, added their testimony in approval of the treatment.

In this country, but few members of the profession, of any prominence, have given the subject attention, and the opinion still generally prevails that the inhalation of artificial oxygen, as a therapeutic measure, is of doubtful utility, and, in any event, difficult of accomplishment in general practice. This is scarcely to be wondered at, in view of the fact that literature on the subject is not only meagre but very unsatisfactory. Comparatively nothing on the subject has appeared in this country, and, as yet, no American publisher has had the courage to venture the republication of foreign works of the kind. The medical press generally, has ignored all mention of the subject; the notable exceptions including the *London Lancet*, and *British and Foreign Medico-Chirurgical Review*, in which some interesting cases, treated by means of super-oxygenation, have been reported from time to time, and articles on the same subject have occasionally appeared.

Our own Prof. Cohen, of Jefferson Medical College, in his recent work (*On Inhalation*, Phila. 1867), asserts with great positiveness, the value of pure oxygen in certain forms of disease in which he has used it or witnessed its use. Dr. DaCosta, in his monograph on the same subject, makes cautious mention of it as the "most promising" of all the gases, but dismisses the question of its use by saying, "we must wait the results of these later experiments, since the former ones were unsatisfactory."

Demarquay's reports to the Academy of Medicine, and *Gazette Médicale* (Paris, 1866), are quite conclusive and satisfactory, but have not yet been republished in English. The monograph of Dr. S. B. Birch, of Manchester Medical School, (Second edition, London, 1868.) is probably the most satisfactory contribution yet made to medical literature, on the subject of pure oxygen as a curative agent. The first edition of the same work, issued in 1857, was not well received by the English medical press, but was made the subject of considerable ungenerous criticism, and never found its way to this side.

This author, whose experience with oxygen, extending through a period of more than fifteen years, probably exceeds that of any other practitioner who has yet spoken—asserts, as his conclusions concerning the agent, that, "it is a powerful, really scientific and agreeable curative agent; is capable of far more extensive range in its application to the rational treatment of chronic diseases than, perhaps, any other remedy—*is permanently Nature's own therapeutic*, affording assistance in her own way, without opposing the intentions of her ever-present *vis medicatrix*, and is entitled to the position of a *curative*, in a variety of intractable diseases, otherwise incurable by any other known means, or tacitly acknowledged to be so; * * * is occasionally *the* remedy, and then the only one worthy of the name, in certain contingencies, where life must be (and frequently is) sacrificed by neglecting a fair trial of it." (*On Oxygen, pp. 148*). He adds: "It may with safety be predicted that, sooner or later, non-atmospheric oxygen will be universally admitted as one of our most valued remedial agents. (Op. cit., p. 149.)

It would seem a notable lack of professional acumen or professional enterprise, that so little is known concerning the therapeutic use of this agent, and that so potent an ally in the treatment of disease should not long since have been made more generally available. But the difficulties of rendering it so in general practice have thus far, no doubt, deterred many from attempting its use, who otherwise would be glad to avail themselves of its aid. The impetus of late given to the subject, both in Europe and this country, bids fair to enlist the attention of the general profession, and to secure for the treatment, recognition adequate to its importance.

Of the various methods of exhibiting the remedy, which have been brought forward from time to time, the more practicable and important are,

1. Direct inhalation of the gas into the lungs, which is, *par excellence*, at the head of all other methods of administration. The gas may be generated by any of the processes

known to chemists, care being taken to secure a sufficient degree of purity.

The process by means of chlorate of potash and per-oxide of manganese, is, undoubtedly, the most practical and economical for ordinary purposes. It requires some sacrifice of time and care in its manipulation, and is, so far, objectionable to the busy practitioner; but the gas afforded by this process can be made of such absolute purity, and the apparatus required is so comparatively inexpensive, that it is to be preferred to any other.

A process for the evolution of the gas in a tolerable state of purity, by means of chloride of lime and per-oxide of cobalt, has lately been perfected by the Messrs. Robbins & Co., of London. It was originally proposed by Flitmann, but was not looked upon with much favor, since it required that the chloride should be in saturated solution previous to the addition of the cobalt, which seriously interferes with the portability of the material and its adaptability to emergencies. By some process of their own, which they very ungraciously decline to impart to any American chemist, the Messrs. R. & Co. manage to combine these substances, in right proportions, in the form of dry powder, which may be preserved any length of time, unchanged, and is ready for instant use on the addition of simple boiling water.

The per-oxide of hydrogen, in solution, raised to a temperature of nearly 100°, gives off limited quantities of perfectly pure oxygen; but this process is expensive and will be brought into requisition only when limited quantities of the gas are required, or when other methods are not at hand.

Per-oxide of barium and bi-chromate of potash, with diluted sulphuric acid, is another process for obtaining the gas, but scarcely to be recommended.

The decomposition of water by the galvanic current may, in time, become a more feasible and less expensive method than now.

(To be continued.)

Sun Stroke.

BY M. WATERHOUSE, M.D., PORTAGE CITY, WIS.

EDITORS JOURNAL:

From reading various articles in THE JOURNAL of the 16th December, upon the treatment of sun stroke, I am induced to communicate some of my own experience in that disorder. The theory of sun stroke seems to be laid down somewhat vaguely, as the effect of extreme heat on the nervous system in persons fatigued and of previously enfeeblee constitution. How far out of the way this definition may be, or what the particular indications for treatment would follow it, if any, I do not stop to inquire, but the remedies that have been tried are numerous and unsatisfactory, and in all ages and modes of treatment the head has invariably received the largest share of attention, notwithstanding that post-mortem examinations seldom furnish any evidence that the brain has suffered material injury, on the contrary, the lungs are nearly always found in a state of congestion.

My belief is, that in by far the greater proportion of cases, the effect of the heat is local and confined to the cervical and dorsal regions of the spinal cord. During the heated period of each summer, for a number of years past, I have seen a greater or less number of cases of sun stroke and noted particularly the mode of attack, and especially the position of the individual at the time, and so far as I can recollect, every person was so situated as to receive the rays of the sun more or less directly on the back, as for instance:

J. O., of Portage City, a painter by trade, aged about forty-five, of previously good health and strong constitution, was painting letters on the side of a railroad car with his back exposed to the direct rays of the sun, at about noon, suddenly felt his eyesight begin to fail, and in a few minutes fell down comatose, with slow, feeble pulse. Stertorous breathing and inability to swallow, and had a number of violent convulsions.

H. A., a carpenter, aged about thirty, a strong, healthy, vigorous man, was nailing siding on a house, with his back to the sun, at about two o'clock, P. M., suddenly fell down comatose, but no convulsions.

J. M., a farmer, aged thirty-two, of previously good health and constitution, was binding wheat in the harvest field in a stooping position, so that which ever way he was facing he received the rays of the sun on his back, and was attacked with coma and fell down at 3 o'clock, P. M., had no convulsions nor stertorous breathing.

Another man, whose previous health and habits I did not learn, was journeying through the country in a wagon, and sitting with his back to the sun, and could not have been very greatly fatigued, was seized with sun stroke and fell over in his wagon with coma, and more or less convulsions.

These cases, and about a dozen others that have fallen under my observation, all being attacked in similar positions and circumstances, were all treated alike, viz; by cups applied to the cervical and dorsal sections of the spine, followed with ice-bags to the same regions, and in every case with relief more or less promptly, and final recovery with *very little* other treatment. I have also noticed in examinations of invalid pensioners, whose disability originate in sun stroke, that besides being generally debilitated they have all more or less spinal tenderness, and some of them have habitual convulsions.

In regard to the lesions found in the lungs after death from sun stroke is it not probable that the cause is to be found in the effects of extreme heat upon those nervous centres that are most directly concerned in the function of respiration.

Now all this may nothing new to many of your readers, nor do I suppose that there is sufficient in the limited number of cases that I have seen to establish any rule that will apply to all cases, yet there seemed enough in them to impress me strongly with the idea of addressing my efforts to the spine, and to warrant me in giving you such thoughts as have occured to me on the subject.

FOREIGN ITEMS.

A New Method of Laryngoscopy.—Dr. Voltilini, in an article just published in the Berlin *Medical Weekly*, affirms that the epiglottis and the interior of the thyroid cartilage can be seen without the aid of the laryngoscopic mirror. It is not necessary to press upon the tongue with the tongue-depressor, which obstructs the view, but to extend the tongue firmly outside of the mouth; at the same time it is necessary to press externally upon the thyroid cartilage with the fingers of the hand which holds the tongue, and to push the epiglottis forward by means of a little instrument designed for the purpose. The author maintains that he has been able in this manner, to see the thyroid cartilage, and that it is possible thus to explore the interior of the thyroid body, in an appropriate subject.—*Gazette Médicale.*

Animal Grafts—Dr. Montegazza refers to some interesting experiments, which he had made, upon animal grafting, and the artificial production of cells, and which he had recorded in a volume published in Milan, in 1865. In this work he investigated the changes which supervene in a tissue when it is transplanted, without having lost its vital properties, into the substance of an organism still possessing life. He applies the organs removed to an animal living in conditions most favorable to the preservation of their physiological properties; he interrupts only the course of the nerves and the direct communication of the vessels, he affects for them a reciprocal combat by means of the plasma, and he thus preserves the natural temperature, humidity, etc. By pursuing this method he has been enabled to observe in some tissues a very rapid fatty degeneration; in others he has established the preservation of physiological nutrition, whilst others still have continued to grow even beyond their normal limits; finally, in extremely rare cases, he has been able to demonstrate that not only the

nutritive faculty but the function, even, of the organ was preserved. The stomach has furnished him with the most striking example of the fact. He had observed that this viscus, isolated from all nervous and vascular communication, could preserve, during almost a month, the faculty of secreting mucus and of digesting; all the stomachs transplanted were distended by mucus, and in some it seemed that this accumulation would burst the walls. He effected artificial digestion as well in stomachs transplanted upon the same animal, as in stomachs transferred from one animal to another; but in the first, the digestive force was more energetic, and, what was very remarkable, it was even much more energetic than in two stomachs which had just been removed from living and well nourished frogs.

Desiring to renew these experiments, but prevented by other occupations, M. Marchioli, his assistant, assumed the charge of conducting them. Subjoined is an analysis of three of these experiments. In the first the stomach was removed from a living frog, on the 8th of January, and after having received a double ligature, at the cardiac and and pyloric orifices, it was placed in the abdominal cavity of another, very robust frog. Cicatrization occurred promptly: the frog continued in good health up to the 22d of January, when it died. Upon opening the abdominal cavity the engrafted stomach was found adhering tenaciously to the peritoneum, near the greater curvature of the stomach proper of the frog. Both were empty and contained but little mucus. The mucus of the two stomachs was scraped, and the pulp which resulted therefrom was placed in two little glasses, into which was poured five cubic centimetres of distilled water and a drop of hydrochloric acid.

Next the digestive power of the two stomachs was tested by placing them in contact with cubes of boiled white of egg, and a difference of forty-eight hours in favor of the grafted stomach was determined. The second and the third experiments were but repetitions of the first, and were followed by analogous results.

PROCEEDINGS OF SOCIETIES.

Proceedings of the Chicago Medical Society.

"SPONTANEOUS" DISLOCATION OF THE LENS INTO THE ANTERIOR CHAMBER.

Dr. Holmes presented a crystalline lens, which he had extracted from the right eye of a young man, 22 years of age, a student in the Rush Medical College. In his infancy there was a marked failure in the development of the osseous system which produced considerable distortion of the ancle and wrist joints and of the sternum. As early as in the sixth month of his age, his parents had observed that he was extremely near sighted. From this time to his nineteenth year, he was very myopic, with almost absolutely no power of accommodation. In reading he was obliged to hold his book a distance of only three inches.

At the end of this period he observed that he could see distant objects with the left eye over the lens and near ones through it; on stooping he could see only very near objects. The lens had become slightly dislocated downward. Two years ago the left lens fell into the anterior chamber, while the patient was in the simple act of stooping. A surgeon replaced the lens behind the iris, by an operation with a needle. Severe inflammation with hydrophthalmus and final atrophy of the globe followed.

About a year ago there was a partial displacement of the right lens downward with the effects on vision as above described. On the 7th of October last, while stooping forward in his chair, the lens fell into the anterior chamber. With the lens in this position he could read the finest diamond print at the distance of two inches behind the cornea. The lens resembled a beautiful globule of air.

In consultation with Prof. Gunn, I was decided to extract the lens at once, before irritation supervened. There was

reason to apprehend, with the progressive atrophy of the zonula of Zinn, that there was also dissolution of the vitreous humor.

The lens was removed through an incision made with Graefe's knife, in the lower portion of the cornea, encroaching upon the limbus conjunctivæ, but not so far upon the sclerotic as in the modified peripheral extraction. As the knife traversed the anterior chamber, the lens was crowded into the upper portion of the anterior chamber, repressing the upper portion of the iris into the vitreous humor. As the aqueous humor was evacuated, the lower free border of the iris rose in front of the knife and was excised. The lens passed out spontaneously without the slightest loss of vitreous humor. The edges of the wound were in exact coaptation, as the lids were placed in position and the compressive bandages applied.

In ten days the patient was about his room with good vision, having suffered scarcely any pain from the operation. In a few days there appeared a minute transparent staphyloma in the apex of the cicatrix, just below the transparent borders of the cornea. The iris was not involved, as the globe was quite tense; it was thought best to make a minute opening through the staphyloma. Although no pressure was exerted upon the globe, and the patient suffered no pain to cause spasm of the muscles, a large quantity of perfectly limpid fluid, like aqueous humor, was evacuated. The quantity was such that there could be no doubt that a portion of it was the dissolved vitreous humor. Although the tension of the eye became very much reduced, the wound healed, and the eye was soon restored to its normal firmness, *without impairing vision.*

The patient returned home to an adjoining State, able to read or write without the use of a lens. Six weeks after the extraction he wrote a letter, as he stated, with as much ease as ever before in his life. That same night while on the cars he awoke almost totally blind. He discovered on palpation no loss of the intraoccular contents. He came at

once to Chicago in great pain. In less than twenty-four hours there was much œdema of the conjunctiva, and lids with quite a copious muco-purulent discharge, as if the patient was suffering from an attack of uncomplicated acute conjunctivitis. A delicate greyish membrane could be seen floating behind the iris in the inner and lower portion of the globe, which was, undoubtedly, a detached portion of the retina. No ophthalmoscopic examination was made on account of the severe pain. Violent inflammation continued nearly two weeks. The patient soon returned home, blind, with scarcely a hope that any subsequent operation could restore his vision. An examination of the refraction of the eye was deferred after the extraction of the lens, in expectation of the patient's returning to the city when the eye had perfectly recovered from the effects of the operation. Dr. Holmes also presented another crystalline lens which he had recently removed from the anterior chamber. The patient, 43 years of age, had received a blow on the left eye 25 years ago which nearly destroyed the vision. For twenty years there was a small white body lying *in* the pupil, a part of which projected into the anterior chamber. Five years ago, while in the act of lifting a great weight, the entire lens fell into the anterior chamber. During this period he had suffered frequent attacks of pain and irritation. For the purpose of relieving irritation with scarcely a hope of improving vision, the lens was removed, through an opening in the lower portion of the anterior chamber. The wound healed readily without any irritation. The lens was much atrophied, very hard and white in appearance, composed entirely of calcareous matter.

AMPUTATION AT THE SHOULDER JOINT.

Dr. Wanzer exhibited the fragments of the upper portion of the humerus which he had amputated at the shoulder joint, of a German, 51 years of age, whose arm had been crushed in a machine. The patient made a good recovery.

Dr. Bogue exhibited an ovum which had evidently been blighted, in consequence of hæmorrhage between the amnion and chorion. The clot of blood and the placenta could be easily traced. Neither the fœtus nor cord could be found. Dr. Bogue exhibited for Dr. Hutchinson a beautiful specimen of the neck of a tapeworm.

BOOKS RECEIVED.

OPTHALMIC SURGERY AND TREATMENT; With Advice on the Use and Abuse of Spectacles. By John Phillips, Optician and Oculist. Chicago: *The Western News Company*; *W. B. Keen & Co.*, 1869. Pp. 510.

The first portion of the book is a complete thesis on "the use and abuse of spectacles," and is eminently practical in its character, and we think well calculated to impart knowledge on a very important and much-neglected subject. It will bear careful perusal. The various inflammatory diseases of the eye naturally claim a large space. As a whole this work is well written, and especially is this the case in the chapters on scrofulous opthalmia, and conjunctivitis and its sequel, "granulated eyelid," the most frequent and by far the most obstinate "of the curable diseases to which the eye is subject." The various formula in this part of the work will be found valuable.

The chapter on diseases of the lachrymal apparatus (25 pages) is well written, and exhausts the subject. Due credit is given to Mr. Bowman for the introduction of his simple and successful operation of slitting up the puncta and canaliculi, and adopting a series of large probes in the treatment of obstructions and strictures of these passages.

The division of the work on opthalmic surgery is, of course, about the same as in other recent works on the same subject, but as no branch of surgery is more progressive than this, and improvements, both in instruments and the *modus operandi*, are constantly being made, it is something to say that this work is, in some respects, more comprehensive, and in advance of its predecessors.

The new work of Dr. Bader, just published in London, contributes a fair quota of valuable and reliable matter.

We notice that Dr. Trumbull's practice (introduced in 1837, and since fallen into disuse) of treating various maladies of the eye by exposing the organ to medicated vapors, is here strongly advocated, and we remember that Dr. Williams, of Boston, in his recent work, takes similar ground, especially in the treatment of asthenopia.